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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,133	10/06/2005	Lars-Goran Wistrand	PN0335	7194

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EXAMINER	
PERREIRA, MELISSA JEAN	
ART UNIT	PAPER NUMBER
1618	
MAIL DATE	DELIVERY MODE
07/17/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,133	WISTRAND, LARS-GORAN	
	Examiner	Art Unit	
	MELISSA PERREIRA	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/6/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-18 are pending in the application.

The instant claims 13-18 are being viewed as product claims as they do not recite, "method or process" and do not contain any method steps but do comprise two components, a radical and a sample.

Claim Objections

1. Claim 8 is objected to because of the following informalities: the instant claim contains periods after the term tert. Appropriate correction is required.

2. Claim 11 is objected to because of the following informalities: no hyphen is included after 1,2. Appropriate correction is required.

Specification

3. The disclosure is objected to because of the following informalities: the specification p5, lines 2 and 3 contains periods after the term tert. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. It is confusing as to what radicals would be acceptable for use in dynamic nuclear polarisation as there are no structural/physical or chemical features provided for the radical of the instant claims.

6. Claims 13-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to what samples would be acceptable for use in dynamic nuclear polarization as there are no structural/physical or chemical features provided for the sample of the instant claims. Note, claims 13-18 are examined as product claims, as there is no steps recited and no mention of method or process.

7. Claim 7 recites the limitation "R^1 and R^2" whereas the instant claim 4 to which claim 7 depends does not contain "R^1 and R^2". There is insufficient antecedent basis for this limitation in the claim.

8. Claim 14 recites the limitation "the DNP magnet". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Jørgensen et al. (US 5,599,522).

11. Jørgensen et al. (US 5,599,522) teaches of ESREMRI triarylmethyl radical, $\bullet C(Ar^1)_3$, where Ar is thienyl, phenyl, etc. (column 4, lines 14+). The triarylmethyl radical is generated from radical precursors, such as $(Ar^{12})_3CLv(Lv)$ (Lv is a displaceable group such as $(Ar^{12})_3CHal$; $(Ar^{12})_3C.CO.O.O.CO.C(Ar^{12})_3$, etc. where Hal is Br, Cl, etc.) (column 10, lines 65+; column 11, lines 1-6 and 18-36). ESREMRI is electron spin resonance enhanced magnetic resonance imaging or Overhauser MRI (i.e. dynamic nuclear polarization) which involves exposing the sample to a first radiation of a frequency selected to excite nuclear spin transitions in selected nuclei in the sample and also exposing the sample to a second radiation of a frequency selected to excite electron spin transitions coupled to nuclear spin transitions for at least some of the selected nuclei (column 2, lines 1-28). The radicals may be prepared via photochemical reaction or reaction with less stable radicals such as tert-butyl peroxide in a pharmacologically acceptable carrier or excipient (i.e. solvent) (column 11, lines 37+). The radicals of the disclosure anticipate the radicals of the instant claims and thus have the same properties, such as decomposing to a non-radical species at temperatures from about 5K to about 273K, etc. and are capable of the same functions. The ESREMRI of a mixture comprising a sample and the radical disclosed above is also disclosed (column 2, lines 62+; column 22, lines 47+).

12. It is respectfully pointed out that instant claims 1-17 contain product-by-process limitations. Even though product-by-process claims are limited by and defined by the

process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed Cir. 1985). See MPEP 2113. Also, the claims include intended use recitations; however, since the components of the prior art are the same as those claimed, they would be expected to capable of performing the same intended use.

13. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Bednarek et al. (*J. Am. Chem. Soc.* **1996,** *118*, 9387-9390).

14. Bednarek et al. (*J. Am. Chem. Soc.* **1996,** *118*, 9387-9390) teaches of the generation of OH radicals via γ-irradiation of glassy water at 77K (abstract; p9387, paragraph 2). The glassy water was prepared by hyperquenching of aerosol water droplets (solvent) on a copper substrate (glass forming compound, sample) held at 77K. The sample is immersed in liquid nitrogen and the γ-irradiations were performed at a dose rate of about 5kGy/h (p9388, experimental section). The radicals of the disclosure anticipate the radicals of the instant claims and thus have the same properties, such as decomposing to a non-radical species at temperatures from about 5K to about 273K, etc. and are capable of the same functions.

15. It is respectfully pointed out that instant claims 1-18 contain product-by-process limitations. Even though product-by-process claims are limited by and defined by the

process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed Cir. 1985). See MPEP 2113.

16. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hall et al. (*Science* **1997**, *276*, 930-932).

17. Hall et al. (*Science* **1997**, *276*, 930-932) teaches of nitroxide free radicals for signal enhancement of arginine and the protein T4 lysozyme via dynamic nuclear polarization (abstract). The DNP enhancement scheme uses a frozen aqueous (60:40 glycerol-water) solution (i.e. solvent) comprising arginine and the protein T4 lysozyme doped with 4-amino TEMPO (abstract; p930, paragraph 4). Glycerol is a glass former as evidenced by the (specification p5, lines 21-23). The radicals of the disclosure anticipate the radicals of the instant claims and thus have the same properties, such as decomposing to a non-radical species at temperatures from about 5K to about 273K, etc. and are capable of the same functions.

18. It is respectfully pointed out that instant claims 1-18 are product-by-process limitations. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is

unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed Cir. 1985). See MPEP 2113.

Conclusion

No claims are allowed at this time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA PERREIRA whose telephone number is (571)272-1354. The examiner can normally be reached on 9am-5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael G. Hartley/
Supervisory Patent Examiner, Art Unit 1618
/Melissa Perreira/
Examiner, Art Unit 1618